

# GENERAL DENTISTRY

## 62-09 Filtek A110 Anterior Restorative

(Project 00-20)

According to its manufacturer (3M Dental Products), A110 is an esthetic, nonradiopaque, light-cured microfill designed for use in nonstress-bearing anterior direct and indirect restorations where esthetics is of primary concern. 3M recommends it specifically for Class III and V restorations, selected Class IV restorations, direct and indirect veneers, and for limited use in Class I lesions in premolars. In Class IV lesions, 3M notes A110 should be used only as a veneer over a hybrid resin composite.

Filtek A110 is a Bis-GMA resin filled 40% by volume (56% by weight) with colloidal silica having a range in size of from 0.01 to 0.09 microns. Average filler size is 0.04 microns. It is available in a total of 20 shades in three different opacities (dentin, enamel, incisal). The product is available in multi-dose syringes and single-use capsules and is supplied with 3M's fifth-generation bonding agent, Single Bond. Recommended maximum thicknesses range from 1.5 to 2.0 mm and light curing times range from 20 to 40 seconds, depending upon the shade and opacity being placed.

### Manufacturer:

3M  
Dental Products Division  
3M Health Care  
3M Center, Bldg 275-2SE-03  
St. Paul, MN 55144-1000  
(800) 237-1650  
(612) 733-8524  
(800) 888-3132 FAX  
www.mmm.com/dental

### Suggested Retail Price:

\$199.00 Filtek A110 Anterior Restorative System Capsule Introductory Kit (item no. 2221) contains:  
-50 0.15-g capsules, 10 each of shades A2E, A3D, B1, I, DYE  
-one 3-mL bottle of Single Bond Dental Adhesive  
-one 3-mL syringe of Scotchbond Etchant  
-accessories

### Government Price:

\$119.40 Filtek A110 Anterior Restorative System Capsule Introductory Kit (contents and item number as listed above)

### ADVANTAGES:

- + Users rated the product highly for polishability and ease of placement.
- + Available in a broad range of shades.
- + Diametral tensile strength is comparable to that of some hybrids.
- + Product meets 3M's depth-of-cure claims.
- + Comparable to Silux Plus (3M) in hardness.
- + Expiration date and lot number stamped on capsules.
- + Recommended storage conditions listed on box.
- + Packaged with easy-to-use bonding agent (Single Bond).
- + Provided with a user-friendly graphics instruction card.

### DISADVANTAGES:

- More expensive than several other popular microfill resin composites (per gram of refill material).
- Users felt too few shades were provided in kit.
- Not enough capsules are provided for each shade.
- Shade match was not as highly rated by users as for other evaluated composites.
- Different curing times for enamel and dentin shades may lead to clinical errors.
- Not adequately radiopaque for radiographic detection.
- Material Safety Data Sheet (MSDS) is not provided in kit.

**SUMMARY AND CONCLUSIONS:**

Filtek A110 was judged by the majority of our clinical evaluators to be straightforward to use and it produced esthetic, polishable restorations. Its viscosity and ease of placement were acceptable but, in general, the product did not markedly impress the evaluators. Although, as mentioned, its esthetics were good, users did not feel it provided significant advantages compared to their currently available microfill composite. They noted that too few shades were provided in the kit (only 5 of the available 20), and not enough capsules for each shade (10). Recommended curing times are either 20 or 40 seconds, depending on shade, and DIS testing found these recommendations to be accurate. Like most, if not all microfills, A110 is not radiopaque and clinicians should keep this in mind if using the product in the posterior dentition. A110 is recommended primarily for anterior use by 3M, however. The product is more expensive (per gram of refill resin) than the esthetic universal composites such as Esthet-X (Dentsply/Cauk) and Point 4 (SDS/Kerr) and almost twice as expensive as the microfill Heliomolar RO (Ivoclar-Vivadent). Physical properties were in line with those of standard microfill resin composites. **Filtek A110** is rated **Acceptable** for use by the federal dental services.

(Col Charlton)

---

**62-10 VivaStyle Professional Tooth Whitening System****(Project 00-22)**

The VivaStyle Professional Tooth Whitening System is a carbamide peroxide home bleaching gel from Ivoclar-Vivadent, Inc. The mint-flavored gel is available in 10% and 16% concentrations. The version of VivaStyle evaluated by DIS contained 12 syringes of 16% carbamide peroxide gel, a travel case for the bleaching tray, and a patient instruction card. Detailed product use instructions are provided for the dentist and two one-millimeter-thick clear tray blanks are included for use with a vacuum machine to make the bleaching trays. No tray reservoirs are called for in the instructions. A small mirror and attachable paper shade guide are included for patient use during the treatment period. Patients are instructed to wear the bleaching tray(s) once or twice daily for one to two hours per application. Alternatively, overnight application is acceptable.

**Manufacturer:**

Ivoclar-Vivadent, Inc.  
175 Pineview Drive  
Amherst, NY 14228  
(800) 533-6825  
(716) 691-0010  
(716) 691-2285 FAX  
www.ivoclarna.com

**Suggested Retail Price:**

\$276.29 VivaStyle Professional Tooth Whitening System, 6 patient kits of either 10% concentration (item number 558806) or 16% concentration (item number 558809)

Each patient kit contains:

- 12 1.3-g syringes of bleaching gel
- one travel/storage case
- two sheets of tray material
- one paper shade guide
- accessories (patient mirror, syringe dispensing tips, instructions)

**Government Price:**

\$145.00 VivaStyle Professional Tooth Whitening System (item numbers and contents as listed above)

**ADVANTAGES:**

- + All 32 patients treated during the evaluation were satisfied with their results.
- + Is available in 10% and 16% concentrations.
- + Gel's viscosity helps retain it in the tray.
- + Syringes dispense gel without clogging.
- + Instructions do not call for tray reservoirs.
- + Competitively priced.
- + Clear, user-friendly instruction card for patients was highly rated by users.
- + Supplied in a cloth travel case with storage tray.
- + Expiration date, lot number, and storage conditions are provided on box.
- + Comes with Material Safety Data Sheet (MSDS).

**DISADVANTAGES:**

- pH value is slightly lower than those of other home bleaching agents evaluated by DIS.
- Caused a greater number of cases of thermal sensitivity and gingival irritation than other products evaluated by DIS.
- Patient mirror and paper shade guide were of little use.
- Taste was not particularly highly rated by users.

**SUMMARY AND CONCLUSIONS:**

VivaStyle was judged to be very effective by clinicians and patients during this evaluation. The bleaching gel is appropriately thick which helped retain it in the tray. Fabricating the bleaching trays is faster with VivaStyle because there is no requirement for reservoirs. The gel's flavor was acceptable to patients but did not receive particularly high marks. The product did cause side effects (e.g., thermal sensitivity, gingival irritation), and these occurred more often than for other home bleaching products previously evaluated by DIS. The side effects may be related to the product's slightly lower pH. While not the least expensive product, VivaStyle is competitively priced. **The VivaStyle Professional Tooth Whitening System** is rated **Acceptable** for use by the federal dental services.

(Col Charlton)

---

**62-11 Illuminé****(Project 00-23)**

Illuminé from Dentsply/Preventive Care is a hydrogen peroxide gel for in-office tooth whitening. The gel is supplied in an innovative mixing device consisting of two plastic syringes joined at the center by a plastic stopcock. One syringe contains 30% liquid hydrogen peroxide, and the other contains a proprietary powder blend. Prior to treatment, a standard bleaching tray with reservoir areas is fabricated for the patient. At the time of use, the contents of the liquid-containing syringe are expressed into the powder-containing syringe. The material is mixed by forcing it from one syringe into the other several times. The mixture is then expressed into the bleaching tray where, over a one-minute period, it converts into a semi-solid gel. The tray is inserted into the patient's mouth, and excess gel is carefully removed from the gingiva. The patient can then return to the waiting room. At the end of a standard treatment period (30 to 60 minutes) the patient returns to the chair and the tray is removed. Dentsply claims that one treatment can effectively whiten teeth from four to six shades, and that post-treatment whitening continues for 24 to 72 hours that produces an additional one- to two-shade change. Another purported advantage of Illuminé is that it is less messy than most other whitening products because the gel's semi-solid consistency and adhesiveness limit its overflow from the tray. Illuminé can be used as a stand-alone product or as a "boost" treatment prior to using Nupro Gold, Dentsply's home bleaching product (see DIS 51-07). One kit of Illuminé contains two sets of syringes, enough for two treatments.

**Manufacturer:**

Dentsply/Professional  
1301 Smile Way  
P.O. Box 7807  
York, PA 17404  
(800) 989-8826  
(717) 767-8500  
(717) 767-8250 FAX  
www.prevent.dentsply.com

**Suggested Retail Price:**

\$59.50 Illuminé (item number 614036)  
-two single-arch treatments  
-two syringe tips  
-instructions  
-Material Safety Data Sheet (MSDS)

**Government Price:**

\$38.50 Illuminé (item number and contents as listed above)

**ADVANTAGES:**

- + Is an in-office treatment that requires no light or heat application.
- + Features innovative coupled-syringe mixing system which worked well.
- + A post-treatment whitening effect was noted by evaluators.
- + Components mix well and gel is easy to dispense into tray.
- + Gel becomes thick after setting, which limits its overextension during tray setting.

- + Can be used as "boost" treatment before the use of traditional home bleaching products.
- + Mixing and product instructions are provided on graphics card.
- + Packaging takes up relatively little space.
- + Expiration date and lot number are clearly stamped on syringes.
- + Recommended storage conditions are listed on package.
- + Comes with Material Safety Data Sheet (MSDS).

#### **DISADVANTAGES:**

- For some patients, additional treatments or use in conjunction with an at-home bleaching product may be required to produce satisfactory results.
- Causes significant gingival irritation unless tissue is adequately isolated.
- Some users may find gel becomes too thick prior to tray placement.
- Gel can be difficult to remove from the teeth after treatment.
- Instructions call for incorporation of reservoirs in bleaching tray.
- Has a pH considerably lower than those of home bleaching products evaluated by DIS.

#### **SUMMARY AND CONCLUSIONS:**

Illumine is an innovative product that is significantly different from most in-office bleaching agents. While most users were satisfied with the results the product produced for their patients, additional treatments or use of Illumine in conjunction with an at-home bleaching product was necessary to produce the best result. While the users did not feel it produced the degree of lightening (nine shades) claimed by Dentsply, it did have a post-treatment whitening effect. It is important that gingival tissues be isolated properly to prevent Illumine from contacting them, otherwise significant irritation can occur. In general, users were satisfied but not overly impressed with the product's effectiveness. **Illumine** is rated **Marginal** for use by the federal dental services.

(Col Charlton)

## **62-12 Fresh & Go**

**(Project 00-45)**

Fresh & Go is a toothbrush with self-contained reservoir of toothpaste. It consists of a brush head attached to a tube-shaped handle that holds a menthol-flavored, fluoride-containing toothpaste. The paste is delivered to the brush head by turning a knob. The medium-bristled brush head comes with a protective, replaceable plastic cover that acts as a plug to prevent drying out of the paste. The company claims the product contains enough toothpaste for a month's use (i.e., about 30 uses) and is ideal for travel, camping, office, and dining-out situations. It is also said to be suitable for home use and may be particularly helpful for individuals who have limited dexterity, are disabled, or are going through rehabilitation. The handle comes in various colors and is available in a children's version that contains bubble gum-flavored paste.

#### **Manufacturer:**

Fresh & Go, USA  
5701 W. Belmont Avenue  
Chicago, IL 60634  
(773) 622-2211  
(773) 622-1353 FAX

**Suggested Retail Price:** \$2.99

**Government Price:** \$1.00

#### **ADVANTAGES:**

- + Well-suited for situations where using a traditional toothbrush and toothpaste might be inconvenient (e.g., deployed troops or users who are hospitalized, traveling, camping, or at work).
- + Handle is easy for arthritic, disabled, or less dexterous users to hold.
- + Plastic brush cover keeps toothpaste from drying out and allows bristles to dry between uses.
- + Toothpaste has pleasant flavor.
- + Toothpaste is available in bubble gum-flavor for children.
- + Reasonably priced.
- + Expiration date and lot number are stamped on product package.
- + Instructions are clear and concise.

**DISADVANTAGES:**

- Only one bristle stiffness (medium) is available.
- Users felt bristles were too stiff.
- Head may be too large for some users to easily manipulate.
- Users found toothpaste supply did not last as long as company claims.
- Some disabled users may find it difficult to manipulate the paste-dispensing knob.

**SUMMARY AND CONCLUSIONS:**

Fresh & Go is an innovative product that performed very well during the clinical-user trial. Evaluators found it convenient for situations where use of a traditional toothbrush and toothpaste was problematic (i.e., travelers, campers, hospitalized patients, etc.). For the military, this product has an excellent role to play in improving the oral hygiene of deployed troops. The government price is quite competitive considering the cost of a standard toothbrush and toothpaste. Users thought that certain aspects of the brush could be improved, such as bristle softness, head size, and toothpaste flavor, but overall Fresh & Go performed as claimed and is a useful, well-designed, effective product. For patients who would benefit from the convenience of a toothbrush with self-contained toothpaste, **Fresh & Go** is rated **Recommended** for use by the federal dental services.

(Col Charlton)

---

**62-13 Hypo® Intraosseous Needle****(Project 00-37)**

The Hypo® Intraosseous Needle is a 30-gauge, tri-bevel, siliconized needle designed for achieving single-tooth anesthesia. The one-eighth-inch-long needle is reinforced with a plastic sheath, which allows it to be directly placed into the interproximal bone. The needle is stabilized with a stainless-steel sliding sleeve that retracts into the needle body as the needle penetrates the cortical bone. The manufacturer claims that its self-limiting design allows for sufficient penetration depth into the cancellous bone. These special features allow for a one-step, intraosseous injection without the need to pre-drill a perforation hole. The Hypo® Intraosseous Needle has a pre-threaded metal hub that fits any standard dental syringe and may be used for multiple injections per patient.

**Manufacturer:**

Dentsply-MPL Technologies  
9400 King Street  
Franklin Park, IL 60131-2116  
(800) 621-6421  
(847) 678-7555  
(847) 678-7585 FAX  
www.dentsply.com

**Suggested Retail Price:**

\$22.70 One box-20 needles  
\$53.60 One box-50 needles  
\$99.95 One box-100 needles

**Government Price:**

\$13.00 One box-20 needles  
\$28.25 One box-50 needles  
\$55.35 One box-100 needles

**ADVANTAGES:**

- + Fits on standard syringes.
- + No need to drill a pilot hole prior to needle insertion.
- + Minimal armamentarium required.
- + User-friendly instructions.
- + Good control when advancing needle.
- + Little or no trauma to soft tissues or bone.
- + Needle is stable during injection.
- + Very useful in the anterior area.
- + Excellent alternative for PDL/palatal injections.

**DISADVANTAGES:**

- Needle orifice tends to clog.
- Difficult to rotate syringe while injecting.

- Tendency for needle to bend if not held perpendicular to injection site.
- Need to discard part of anesthetic solution to improve leverage on syringe.

#### **SUMMARY AND CONCLUSIONS:**

The Hypo® Intraosseous Needle is a one-step system for intraosseous injections that requires no pilot hole for achieving single-tooth anesthesia. Evaluators experienced some difficulties with needle bending and orifice clogging, which meant they needed to use more than one needle per treatment. However, the product did provide instant, profound anesthesia that was adequate for single-tooth anesthesia with minimal patient discomfort. The needle was found to be very useful for administering anesthesia in the anterior to bicuspid area, but was more difficult to use in the posterior area due to the need to keep the needle perpendicular to the injection site for proper technique. One evaluator found the product had excellent stability and control for PDL/palatal injections and could be used to trephine the cortical plate with anesthesia when establishing drainage. The **Hypo® Intraosseous Needle** is rated **Acceptable** for use by the federal dental services.

(Col Bartoloni)

## **62-14 One-Up Bond F**

**(Project 00-44)**

One-Up Bond F is a self-etching, one-step, light-activated bonding agent that consists of two bottles. Once mixed, the product etches, primes, and bonds in one step. As a result, One-Up Bond F's application eliminates the separate etching, rinsing, and drying steps inherent to many currently-available bonding agents. J. Morita claims that One-Up Bond F contains and releases fluoride. Product instructions describe its use for bonding direct resin composite restorations and for sealing exposed cervical dentin and root surfaces. The product is distinguished from other bonding products in that it undergoes color changes that enable the clinician to visually confirm the mixing and application steps. When mixing, the liquids from Bottle A and Bottle B turn pink to enable users to confirm that they have applied the bonding agent to all intended areas. During light activation, the agent becomes nearly colorless.

To apply One-Up Bond F, one drop of each solution is mixed together, applied to enamel and dentin, and allowed to remain undisturbed for 20 seconds. The area is then exposed to a standard curing light for 10 seconds.

The product comes with a sheet of written instructions and a graphics-containing summary instruction card. The card, attached to the inside cover of the product box, can be removed for user convenience. The product box is very small, measuring 5 inches by 3 inches by 1 inch.

#### **Manufacturer:**

J. Morita  
9 Mason  
Irvine, CA 92618  
(888) 566-7482  
(949) 581-9600  
(949) 465-1095 FAX  
www.jmoritausa.com

#### **Suggested Retail Price:**

\$109.00 One-Up Bond F Kit (item number 26-11095) contains:  
-one 5-mL bottle A  
-one 5-mL bottle B  
-accessories (e.g., brush handle, disposable tips, mixing dish)

#### **Government Price:**

\$76.30 One-Up Bond F (item number and contents as described above)

#### **ADVANTAGES:**

- + Extremely fast to apply.
- + Application process is simple and very straightforward because no separate enamel etching step is required by instructions.
- + Produces strong bond to dentin (23.3 MPa).
- + Preliminary research by outside evaluators indicates acceptable bond to cut enamel.
- + Clinical evaluators found the product's color changes facilitated its proper application.
- + Does not need to be applied to moist dentin.
- + Little, if any post-placement sensitivity.
- + Expiration dates and lot numbers are stamped on individual components.
- + Is provided with clear, easy-to-understand, graphics-containing instruction card.
- + No offensive odor.

- + Shipped in small, space-saving box.
- + Recommended storage conditions are provided on box.
- + Is shipped with a Material Safety Data Sheet (MSDS).

#### **DISADVANTAGES:**

- Requires mixing.
- Not available in a unit-dose form.
- Can only be used for limited purposes (i.e., bonding to enamel and dentin and desensitizing tooth structure).
- Not recommended for use with chemically-cured resin composites.
- Limited published research is available for product.
- Lot number on box differed from those stamped on the bottles.

#### **SUMMARY AND CONCLUSIONS:**

One-Up Bond F is one of the newly introduced bonding products that etch, prime, and bond all in one step. Because it is a one-step product, it is easy to learn to use and is one of the two fastest bonding agents to apply (i.e., 51 seconds) that DIS has ever evaluated. One-Up Bond F undergoes color changes during application that help users ensure it is placed properly. It forms an acceptable bond to dentin and cut enamel, but more research needs to appear in the published literature assessing the product's ability to bond to and seal uncut enamel without separate phosphoric acid etching. Because it uses a self-etching primer, the dentin need not be moist when it is applied. This is advantageous because many clinicians are unsure of the degree of moistness dentin should have at the time of bonding. The product is used for limited purposes and should not be viewed as a multi-substrate bonding agent. For example, it can not be used for bonding chemically-cured resin composites to tooth structure, and its instructions do not describe using it for amalgam bonding or bonding indirect restorations. Its laboratory bond strength to dentin is comparable to some two-step products recently evaluated by DIS. For the simple bonding procedures for which it is intended, **One-Up Bond F** is rated **Acceptable** for use by the federal dental services.

(Col Charlton)

## **62-15 Clearfil SE Bond**

**(Project 00-43)**

Clearfil SE Bond is a bonding agent with 10 percent microfiller that consists of two bottles: a self-etching primer and a light-cured bonding resin. The product is one of a handful of true two-step dentin bonding agents. When applied to dentin or cut enamel, no separate acid etching step is necessary. Instead, the etching is accomplished by applying the primer for 20 seconds to the tooth structure and then drying it with a gentle stream of compressed air. To finish applying SE Bond, the bonding resin is placed, gently air thinned, and then light activated for 10 seconds. It should be noted that uncut (i.e., unprepared) enamel must be separately etched with phosphoric acid if Clearfil SE Bond is to be applied to it.

The product comes with instructions and graphics-containing cards describing its use for five types of bonding: bonding light-cured composite or compomers; cavity sealing as a pretreatment for indirect restorations; sealing of hypersensitive or exposed root surfaces; intraoral repairs of fractured hybrid ceramics, composites, or porcelain; and surface treatment of hybrid ceramic, composite, or porcelain prostheses prior to cementation.

Clearfil SE Bond comes with an innovative one-piece plastic dispenser/holder case into which the primer and bond bottles are placed. A plastic top covers the exposed ends of the bottles when not in use. To use the case, the top of the case is removed and the user presses a flexible button on the side of the case next to the desired bottle. This, in turn, exerts pressure on the bottle, which then dispenses a drop of liquid. Clearfil SE Bond is shipped in a small cardboard box with a top-opening lid.

#### **Manufacturer:**

Kuraray America, Inc.  
200 Park Avenue  
New York, NY 10166-3098  
(212) 986-2230  
[www.kurarayamerica.com/flash\\_home.cfm](http://www.kurarayamerica.com/flash_home.cfm)

#### **Suggested Retail Price:**

\$109.00 Clearfil SE Bond (item number 1970KA) contains:

- one 6-mL bottle of SE Bond Primer
- one 5-mL bottle of SE Bond Bond
- one holder/dispenser case
- accessories (e.g., brush handle, disposable tips, mixing dish/well, light-blocking cover)

**Government Price:**

\$65.40 Clearfil SE Bond (item number and contents as described above)

**ADVANTAGES:**

- + Fast to apply when bonding to dentin and cut (i.e., prepared) enamel.
- + Application process is simple and straightforward.
- + Produces extremely strong bond to dentin (37.6 MPa).
- + Research by outside evaluators indicates strong bond to cut (i.e., prepared) enamel without the need for separate phosphoric acid etching.
- + Does not need to be applied to moist dentin.
- + Comes with an innovative bottle holder/dispenser.
- + Expiration dates and lot numbers are stamped on individual components.
- + Is provided with clear, easy-to-understand, graphics-containing, laminated instruction cards.
- + Recommended storage conditions are provided on box.
- + Instructions clearly describe product indications and use.

**DISADVANTAGES:**

- Not provided with the components necessary to do all the types of bonding described in instructions.
- Not recommended for bonding indirect restorations or amalgam.
- Requires separate enamel etching step when bonding to uncut (i.e., unprepared) enamel.
- Not available in a unit-dose form.
- Users expressed the desire for a different type of applicator.
- Lot number on box differed from the number stamped on the primer and bond bottles.
- Not shipped with a Material Safety Data Sheet (MSDS).

**SUMMARY AND CONCLUSIONS:**

Clearfil SE Bond is one of the few self-etching primer bonding products on the market. Because it uses a self-etching primer, the dentin need not be moist when it is applied. This is advantageous because many clinicians are unsure of the degree of moistness dentin should have at the time of bonding. Application is straightforward but requires five steps. When bonding to uncut (i.e., unprepared) enamel, separate acid etching with phosphoric acid is necessary. This adds time to the clinical procedure. Although the instructions describe five indications for using Clearfil SE Bond, the components necessary to do four of these procedures are not included in the kit (e.g., Clearfil Liner Bond 2 Protect Liner F, K-Etchant Gel, Alloy Primer, and Clearfil Porcelain Bond Activator). Because it is solely light-cured, Clearfil SE Bond is not recommended for bonding indirect restorations. Its bond strength to dentin is very high: in fact, higher than all products previously evaluated by DIS with the exception of Prime & Bond NT (Dentsply/Caulk), with which it was not significantly different. While not shipped with the product, SE Bond's MSDS is available through the Kuraray web site. The product comes with disposable brushes and non-disposable brush handle for applying it. Users wanted a disposable applicator for better infection control. For the simple bonding procedures for which it is can be used as provided, **Clearfil SE Bond** is rated **Recommended** for use by the federal dental services.

(Col Charlton)

---

## 62-16 FujiCem Resin Reinforced Glass Ionomer Luting Cement

(Project 00-35)

FujiCem is a two-paste, hybrid resin/glass ionomer for the permanent cementation of fixed restorations. The product is distinguished from the other currently available resin-modified glass-ionomer luting agents (Fuji Plus, GC America; RelyX, 3M; ProTec Cem, Ivoclar) in that it consists of two pastes while the others are a powder and a liquid. FujiCem is packaged in dual-tube cartridges that are inserted into a metal, hand-operated dispensing device. GC America claims that the device and the cement's paste consistency make it easy to accurately dispense the intended amount of the cement. Mixing is also said to be more easily accomplished than for the powder and liquid types. GC claims that the cartridge are transparent enough to allow the users to see how much cement remains in the tubes and the ports remain free from clogging. The product's other purported advantages include ample working time, ease of clean-up, and low film thickness. FujiCem is recommended for the cementation of metal, porcelain-fused-to-metal, and resin crowns, inlays, onlays, and bridges. It can also be used to cement porcelain inlays and serve as a liner/base. The cement is available in one shade (yellow).

**Manufacturer:**

GC America Inc.  
3737 W. 127th Street  
Alsip, IL 60803  
(800) 323-7063  
(708) 597-0900  
(708) 371-5103 FAX



www.gcamerica.com

**Suggested Retail Price:**

\$146.20 GC FujiCem Introductory Set (item number 431571)  
-two 13.3-g (7.2-mL) Paste Pak Cartridges  
-Paste Pak Applier  
-mixing pad  
-mixing spatula

**Government Price:**

\$95.00 GC FujiCem Introductory Set (item number and contents as listed above)

**ADVANTAGES:**

- + Paste/paste formulation makes cement easier to dispense and mix than other (i.e., powder/liquid) brands of resin/glass-ionomer cement.
- + Film thickness is lower than that of other similar cements evaluated by DIS.
- + Very easy to clean up excess cement from the margins.
- + Dispensing system was highly rated by users.
- + Working time is long enough to allow proper mixing and placement before cement begins to set.
- + Has acceptably short setting time (about 4 minutes).
- + Adequately radiopaque for detection on radiographs.
- + Use of pre-luting conditioner is optional.
- + Expiration dates and lot numbers are provided on cement cartridges.
- + Proper storage conditions listed on product box.
- + No post-treatment sensitivity reported during evaluation.

**DISADVANTAGES:**

- Instructions call for use of post-luting sealer which is not provided with product.
- Not shipped with a Material Safety Data Sheet.

**SUMMARY AND CONCLUSIONS:**

FujiCem was very well received by the clinical users in this evaluation. They rated the product's dispensing system and handling characteristics higher than for other brands of this type of cement evaluated by DIS. FujiCem's physical properties (e.g., film thickness, working and setting times, and radiopacity) are excellent. It is clear from this evaluation that the clinical users were highly impressed with the handling characteristics of FujiCem. It was very easy to dispense, mix, and clean up. Few negative comments or suggestions for improving the product were received from the evaluators. **FujiCem Resin Reinforced Glass Ionomer Luting Cement** is rated **Recommended** for use by the federal dental services.

(Col Charlton)

---

## 62-17 HEM 608 Portable Wrist Blood Pressure Monitor

(Project 00-46)

The HEM-608 Portable Wrist Blood Pressure Monitor is an innovative product that automatically measures blood pressure and pulse using a small blood pressure cuff placed around the wrist. The device is purported to be an inexpensive alternative to traditional automatic blood pressure and pulse machines. It fits securely around either wrist and has a circumference range of from 5¼ to 7¾ inches. The HEM-608, which automatically inflates and deflates, features an easy-to-read, digital, liquid crystal display, and a 14-memory storage capacity. Power is supplied by two AAA batteries. The device has a blood pressure range of from 0 to 280 mmHg and a pulse range of from 40 to 200/minute. It comes with a five-year limited warranty.

**Manufacturer:**

Omron Healthcare, Inc.  
300 Lakeview Parkway  
Vernon Hills, IL 60061  
(877) 216-1333  
(847) 918-6707  
www.omronhealthcare.com

Government facilities can contact J. Michael O'Connor (Omron government representative) for information at (815) 236-8468 or via e-mail at [ojconnor@m c.net](mailto:ojconnor@m c.net).

**Suggested Retail Price:**

\$156.00 Includes:  
1- HEM 608 Wrist Blood Pressure Monitor

- 1- Hard-Shell Carrying Case
- 2- AAA Batteries
- 1- Instruction Manual

**Government Price:**

\$86.68 Items as listed above

**ADVANTAGES:**

- + Cost is very inexpensive when compared to automatic blood pressure machines.
- + Portable and lightweight.
- + Well constructed with a large, easy-to-read liquid crystal display.
- + Color-coded On/Off, Start, and Memory buttons for ease of use.
- + Fits any wrist with a circumference between 5¼ and 7¼ inches.
- + Automatically inflates and deflates.
- + 14-memory storage capacity.
- + Date/Time feature.
- + Unit was easy to operate with minimal training.
- + Patients found the unit very comfortable.
- + Fast operation (takes approximately 30 seconds to get a reading).
- + Self calibrating after each use.
- + Manufacturer's written instructions were easy to read and understand.
- + Comes with its own hard-shell carrying case, instructional manual, and 2 AAA batteries.
- + Has a 5-year limited warranty.

**DISADVANTAGES:**

- Technique sensitive (i.e., wrist **must** be maintained at the heart level while taking measurement).
- Questionable durability.
- Batteries did not last as long as manufacturer claims they should have.

**SUMMARY AND CONCLUSIONS:**

The many advantages of the HEM 608 Portable Wrist Blood Pressure Monitor far outweigh its disadvantages. It should be useful under field conditions, provided proper technique is observed. While the 14-memory function is a convenient feature, its usefulness is more suited for continuous, regular blood pressure checks rather than for blood pressure screenings. Because of its technique sensitivity, DIS believes this unit is best suited for routine blood pressure screenings such as those conducted during annual examinations and should not be considered an alternative to traditional automatic blood pressure machines used during invasive procedures. The one major shortcoming of this unit is its tendency to more rapidly deplete battery power than the manufacturer claims. The manufacturer purports that, if used once a day for two minutes, the battery life should last approximately one year. Rather than lasting the claimed 365 uses, the batteries lasted only 150 to 200 uses. Users would like to see an optional AC adapter for future models to help alleviate this problem. Despite this shortcoming, DIS found the device to be a very good alternative to more costly automatic blood pressure monitors. The **HEM 608 Portable Wrist Blood Pressure Monitor** is rated **Acceptable** for use by the federal dental services.

(TSgt Sutter)

## 62-18 Airbrator Air Abrasion Handpiece

(Project 00-28)

The Airbrator is a single-use, air abrasion handpiece marketed by Edge Dental. The device attaches to an existing dental unit air line (60-80 psi recommended) via a handpiece hose adapter/connector and is said to have a patented delivery system that maintains particle flow and minimizes powder overspray. The Airbrator is claimed to have certain advantages over traditional compressor-driven air abrasion units. Among these are that it requires no maintenance, no refilling, and is disposable. Also, because it is self-contained, it should be simple to set up and not require bulky accessory or auxiliary equipment. The Airbrator is available in three types: 1) Light-Performance Abrasion Polishing and Cleaning (sodium bicarbonate powder) for removing stains and cleaning; 2) Medium-Performance Abrasion for precise abrasion; and 3) High-Performance Abrasion for comprehensive tooth preparation. The manufacturer states that both the Medium- and High-Performance units use 50-micron aluminum oxide. The cutting efficiency of the High Performance is said to result from using aluminum oxide particles that have more jagged edges produced from a different milling process. The Airbrator starter kit includes three High-Performance Abrasion handpieces, a Medium-Performance handpiece, two Light-Performance handpieces, and a handpiece hose connector.

**Manufacturer:**

Edge Dental, Inc.  
PO Box 4332  
13606 S. West Bay Shore Drive

Traverse City, MI 49684  
(800) 873-6070  
(231) 946-6070  
(231) 922-2274 FAX  
www.edgedental.com

**Suggested Retail Price:**

\$84.00 Starter Kit  
    3 High-Performance Airbrators  
    1 Medium-Performance Airbrator  
    2 Light-Performance Airbrators  
    1 Airbrator Connector  
    Instructions  
  
\$14.95 Individual Airbrators (all performance levels)  
\$5.00 Tip Bending Tool  
\$35.00 Connector  
  
\$99.95 Box of 10 Airbrators

**Government Price:**

\$90.00 Box of 10 Airbrators.  
The price for other items listed above is the same as retail price.

**ADVANTAGES:**

- + Easy to set up and works well with existing dental units.
- + Does not require bulky or space-occupying compressor unit.
- + Functions well without powder clogging.
- + Single-use enhances infection control and eliminates the need for sterilization.
- + Short learning curve.
- + Works well for small, incipient lesions and the cleaning of pits and fissures.
- + Useful for metal preparation prior to adhesive bonding.
- + Is more conservative in removing tooth structure than higher-pressure, compressor-powered air abrasion units.
- + Instructions are easy to understand.

**DISADVANTAGES:**

- Lacks the power and efficiency of compressor-powered air abrasion units.
- Little clinical difference observed between Medium- and High-Performance handpieces.
- Cost per unit could be excessive for clinics with frequent need for air abrasion.
- As with all air abrasion system, powder overspray obscures treatment area.

**SUMMARY AND CONCLUSIONS:**

The Airbrator Air Abrasion Handpiece is a single-use, self-contained air abrasion handpiece that is powered by the dental unit handpiece hose air pressure. Clinical evaluators reported that the Airbrator was easy to use and presented a minimal learning curve. The unit functioned well with the dental units on which it was evaluated. Although less efficient than compressor-powered air abrasion units, the Airbrator functioned well in the preparation of small, incipient lesions, stain removal, and metal preparation prior to adhesive bonding. As with all air abrasion devices evaluated by DIS, powder overspray is a problem because it is messy and obscures the treatment area. Little clinical difference was seen between the Medium- and High-Performance handpieces. Although the cost-per-unit could be prohibitive for clinics with frequent use of air abrasion, the Airbrator is a viable alternative for clinics with infrequent need for air abrasion. The **Airbrator Air Abrasion Handpiece** is rated **Acceptable** for use by the federal dental services.

(Lt Col Roberts)

---

## 62-19 Synopsis of Loupes Used in Dentistry

(Project 00-36)

The popularity of user-worn dental loupes (i.e., magnification eyewear) is growing as clinicians realize their benefits. Among other things, loupes make it possible to more easily examine treatment areas which helps reduce eyestrain and promotes proper body posture. Unfortunately, loupes are a relatively expensive and, as a result, it is well worth the potential buyer's time to learn about the various types available prior to purchase. This project is a synopsis of 41 loupes from 6 manufacturers who responded to a DIS request for product information. Several characteristics given in the tables warrant some explanation. These include Type of Loupe, Working Distance, Depth of Field, Width of Field, Weight, and Declination Angle.

The synopsis includes the two types of loupes used in dentistry: Through-the-lens (TTL) and front-frame-mounted (Flip-up). The difference between the two is important. With TTL loupes, the magnification lens is fixed at the factory directly to the glasses. If you wear corrective glasses, and your prescription changes, the loupes must be sent back to the factory for correction. Flip-up style loupes are attached to the front of the frame of the glasses and, as the names indicates, can be flipped up when the clinician does not want to use them. With Flip-up Loupes, if your prescription changes, you simply detach the loupes from the glasses frame and take the glasses to an optical shop to have the lenses replaced. Choosing between the two types is a matter of personal preference.

The distance between the wearer's eye and the object to be viewed is known as the Working Distance. It is generally accepted that the working distance for a tall individual will be greater than that of a short person. Prior to purchasing any types of loupe, the users must be measured to determine his/her working distance.

Depth of Field is the amount of focused vision in front of and beyond the viewed object. For example, if a loupe has a 5-inch depth of field, the user should have clear, focused vision 2½ inches in front of and 2½ inches beyond the object. Generally, depth of field increases as the working distance increases.

The total length across the focused field of view is known as the Width of Field. Magnification affects the width and depth of field as well as the total weight of a pair of loupes. As the magnification increases, the width and depth of field decrease and the weight increases.

When planning to buy loupes, it is important that a representative from the company meet with you to determine another important factor: Declination Angle (DA). DA refers to the degree to which the eyes are declined (inclined downward) as the dentist views the oral/facial region. Studies indicate that the ideal declination angle is from 15 to 44 degrees. However, different loupes have different declination angles, and a product needs to match the provider's declination angle to avoid the added risk of neck/back strain. Therefore, it is important for the company representative to measure your DA as a means of determining the specific model best suited to your needs.

(MSgt Belde)

## INFECTION CONTROL

### 62-20 aXcs Air Controlled Sterile Irrigation System

(Project 00-24)

The aXcs Sterile Irrigation System is a device that provides sterile irrigating solution to dental handpieces for surgical procedures. The system consists of three components: a sterilizable handpiece adapter, a pressure-assist sleeve, and a flow control valve. The handpiece adapter connects between the handpiece and hose, and includes an inlet/outlet port for receiving and delivering sterile irrigating solution to the handpiece. A standard IV bag containing sterile irrigating solution pressurized with the pressure-assist sleeve serves as the source of the irrigation solution. Standard disposable IV tubing (with ISO 594 Luer Lock) connects the IV bag to the inlet port of the handpiece adapter. The flow control valve encircles part of the IV tubing, and is connected to a spare outlet of a standard foot pedal-controlled dental unit. When the foot pedal is depressed to operate the handpiece, the flow control valve automatically opens to allow the sterile irrigating solution to flow from the IV bag to the handpiece. DentalEZ claims that any approved surgical handpiece can be used with the system. The handpiece adapter is available in either a 4-Line or 6-Line configuration.

#### Manufacturer:

DentalEZ Group, StarDental Division  
1816 Colonial Village Lane  
Lancaster, PA 17601-5864  
(800) 275-3320  
(717) 291-9742  
(717) 291-3249 FAX  
www.dentalez.com

#### Suggested Retail Price:

\$595.00 One (1) aXcs Sterile Irrigation System (4-line or 6-Line)

#### Government Price:

\$309.40 One (1) aXcs Sterile Irrigation System (4-Line or 6-Line)

#### ADVANTAGES:

+ Simple method for delivering sterile irrigating solution to treatment sites during surgery.

- + Easier to use than manual irrigation.
- + Can be installed on any modern dental unit.
- + Can be used with any approved surgical handpiece.
- + Can be used with a 4-Line or 6-Line configuration.
- + Can be adapted for use with some slow-speed handpieces and sonic scalers.
- + Compact and portable.
- + Can administer any sterile solution contained in a standard IV bag.
- + Handpiece adapter is fully autoclavable.
- + Only a few parts require sterilization.
- + Lubrication-free.

**DISADVANTAGES:**

- Time/labor intensive to set-up.
- Steep learning curve for assembly and use.
- Tends to leak and deliver insufficient volume if not set up properly.
- Attached handpiece has a limited range of motion due to hose connection.
- Manufacturer recommends replacement of pressure assist-sleeve every four months.

**SUMMARY AND CONCLUSION:**

The aXcs Air Controlled Sterile Irrigation System is designed to provide sterile irrigating solution to handpieces for intraoral surgical procedures without the need for a separate infusion pump. All evaluators felt the device was easy to install to the dental unit, simple to use, and had clear and concise operating instructions. The main shortcomings of the device were a steep learning curve and time/labor intensive set-up. Difficulties were noted with leaking and insufficient volume of irrigation if the product was not properly set-up. Overall, 100% of the evaluators felt the aXcs Sterile Irrigation System was effective and would purchase the system for their clinic. The **aXcs Sterile Irrigation System** is rated **Acceptable** for use by the federal dental services.

(Col Bartoloni)

## 62-21 Magna-Clave Sterilizer

(Project 00-50)

The Magna-Clave sterilizer is a manually-operated sterilizer with a 15-inch internal-diameter by 30-inch-deep, round, stainless-steel chamber. The overall dimensions of the unit are 22.25 inches high by 28 inches wide by 34.25 inches deep. The 208-volt sterilizer, rated at 5000 watts, requires a dedicated, direct-wired, 30-amp electrical circuit. The unit is UL-544 listed and ASME certified.

Four indicator lights identify the power, chamber heat, sterilization mode, and chamber door status. Sterilization time and temperature are adjustable and can be recorded with an optional, circular time/temperature chart recorder. Also, two gauges provide visual greenzone indication of correct internal temperature and pressure.

**Manufacturer:**

Pelton & Crane  
 11727 Fruehauf Drive  
 Charlotte, NC 28273  
 (800) 659-3212  
 (704) 587-7204 FAX

**Suggested Retail Price:**

with stand	\$16,320.00
with recorder and stand	\$17,950.00

**Government Price:**

with stand	\$8,976.00
with recorder and stand	\$9,872.50

**ADVANTAGES:**

- + Unit worked well during laboratory testing.
- + Reservoir can be easily and completely drained for cleaning.
- + Operating and servicing instructions are clear, complete, and easy to understand.
- + Chamber door is easy to operate and has an interlock to protect the operator.

**DISADVANTAGES:**

- Must be manually sequenced through cycles.
- Chamber door must be opened for drying.
- An optional chart recorder for time/temperature is available; no printer is available.
- Rack does not slide in and out of chamber easily.

**SUMMARY AND CONCLUSIONS:**

The Pelton & Crane Magna-Clave operated flawlessly during the laboratory evaluation. Its control panel is easy to understand and operate, and provides a clear indication of status. The chamber door ensures a sure seal and is easy to operate. However, because it is a manual sterilizer, the Magna-Clave contains none of the automatic controls that users of other sterilizers have been accustomed to. The Magna-Clave is best suited for use in medium-to-large clinics with 10 or more providers. Of the seven clinical evaluators surveyed, three awarded the unit an overall rating of Excellent, three gave it a Good rating, and one rated it Average. The **Magna-Clave Sterilizer** is rated **Acceptable** for use by the federal dental services.

(Mr. LaForge)

---

**62-22 Aquasafe Water Test Kit****(Project 00-52)**

The Aquasafe Water Test Kit is a self-contained, fully assembled, disposable, filtration monitor system for microbial analysis of heterotrophic bacteria in water from dental unit waterlines. Each kit consists of four water monitors and four pipettes. Each monitor contains a 0.45-micron membrane overlying a media-pad impregnated with a dehydrated growth medium. The monitor allows for a 1-mL sample of water to pass through the grid-marked membrane and then collects microorganisms on its surface. The liquid hydrates the medium, which provides nutrients to the organisms on the membrane surface. The results are visually examined and counted after 72 hours of incubation at room temperature.

**Manufacturer:**

Pall Medical  
600 South Wagner Road  
Ann Arbor, MI 48103  
(888) 675-7255  
(734) 913-6124  
(734) 913-6353 FAX  
www.pall.com

**Suggested Retail Price:**

\$19.95 One Aquasafe Water Test Kit  
-four water monitors  
-four 1 mL-measuring pipettes  
-examples of reference colony-forming unit concentrations

**Government Price:**

\$13.00 One Aquasafe Water Test Kit (contents as listed above)

**ADVANTAGES:**

- + Easy to use.
- + Rapid means of screening water samples.
- + Self-contained and ready to use.
- + Conveniently packaged.
- + No need to neutralize chlorinated (i.e., tap water) water samples.
- + Does not require an incubator for culturing.
- + Test results are obtained at room temperature.
- + Monitor membrane absorbs 1 mL sample, which simplifies the calculation of CFUs/mL.
- + Results are easy to read.
- + Grid membrane allows for easy quantification.
- + Relatively short initial incubation period (i.e., 72 hours).
- + Convenient reference examples are provided for quantification.

**DISADVANTAGES:**

- Requires use of pipette (included) to draw sample.

**SUMMARY AND CONCLUSIONS:**

The Aquasafe Water Test Kit is a conveniently packaged, ready-to-use system for microbiological analysis of water samples from dental unit waterlines. Evaluators found the test results easy to read and quantify. The protocol was easy to implement and minimal time was required to obtain and read the results. All samples processed during the evaluation could be properly quantified to determine bacterial counts. The product is similar in price to other water monitoring devices on the market, and the product was rated favorably for its user-friendly instructions, ease of use, simplicity, and reliability. The main disadvantage was the need to use of a pipette to draw the sample. The **Aquasafe Water Test Kit** is rated **Acceptable** for use by the federal dental services.

(Col Bartoloni)

---

## 62-23 Millipore HPC Sampler

(Project 00-51)

The Millipore HPC Sampler is a self-contained, individually-packaged device that can be used to analyze water from dental unit waterlines. The device consists of the following: a plastic handle with a 0.45-micron Millipore filter, an absorbent pad containing dehydrated nutrient medium for recovering heterotrophic bacteria from the water source, and a plastic case for sampling and incubation. To use the device, the water sample is placed directly in the plastic case and the handle with its absorbent pad is placed into the case. The pad draws 1 mL through the filter and bacteria larger than the pore size are retained on the filter. The liquid hydrates the medium, providing nutrients to the microorganisms on the filter. Resulting colonies are then visually examined and counted using the grid-marked filter after a seven-day incubation period at room temperature.

### Manufacturer:

Millipore Corporation  
80 Ashby Road  
Bedford, MA 01730  
(800) 645-5476  
(781) 533-6000  
(781) 533-3110 FAX  
www.millipore.com

### Suggested Retail Price:

\$15.00 One Standard Package  
-five Millipore HPC Samplers  
-five Whirl-Pak Bags with sodium thiosulfate

### Government Price:

Same as above

### ADVANTAGES:

- + Detailed, thorough instructions for use.
- + Simple to use.
- + Is a self-contained device that is ready to use.
- + Individually and conveniently packaged.
- + Easy to collect the sample in the plastic case.
- + Does not require an incubator for culturing.
- + Test results are obtained at room temperature.
- + Filter membrane absorbs 1 mL of sample, which simplifies the calculation of CFUs/mL.
- + Filter grid allows for easy bacterial colony determination.
- + Water neutralizing agent is included for treating chlorinated (i.e., tap water) water samples.

### DISADVANTAGES:

- Chlorinated water samples must be neutralized before sampling.
- Recommended incubation time is longer (i.e., seven days) than that of similar products.

### SUMMARY AND CONCLUSIONS:

The Millipore HPC Sampler is a simple, ready-to-use device for monitoring the microbiological quality of water from dental unit waterlines. Evaluators judged the sampling process to be easy to perform and noted it required minimal time and armamentarium. All test samples could be easily quantified. The product is similar in price to other water monitoring devices on the market, and it was rated favorably for its detailed instructions and ease of use. The product's main drawbacks were the need for users to neutralize chlorine-containing (i.e., tap water) water samples, and the extended incubation time. The **Millipore HPC Sampler** is rated **Acceptable** for use by the federal dental services.

(Col Bartoloni)

## LOUPES FOR USE IN DENTISTRY (1 of 3)

Manufacturer	Type/ Models	Magnification	Working Distance	Depth of Field	Width of Field	Warranty	Weight	Price Range
General Scientific Corporation	<u>Flip-up</u>					Limited lifetime warranty		
	EV200 (2 models)	2.0x	13" to 16"	8" & 13"	3.5" to 7.3"		62g	Retail: \$995.00 to \$1,595.00
	EV250 (3 models)	2.5x	12", 16" & 22"	6", 9" & 14"	2.6" to 5.9"		65g	Govt: \$716.00 to \$1,220.00
	EV300 (4 models)	3.0x	11", 13", 16" & 21"	4", 5", 6" & 10"	1.9" to 3.6"		68g	* <b>Contract: V797P-3493K</b> Expires 30 Sep 2004
	KL400	4.0x	Custom	3" to 4"	2" to 4"		97g	Note: 5% discount for ten or more
	KL500	5.0x	Custom	2.5" to 3.5"	1.8" to 3.5"		98g	
General Scientific Corporation	<u>Through-the-Lens</u>					Limited lifetime warranty		
	EVIMG250 (3 models)	2.5x	12", 16", & 22"	6", 9", & 14"	3" to 6.4"		53g	Retail: \$1,045.00 to \$1,595.00
	EVKim400	4.0x	Custom	3" to 4"	2.4" to 4.5"		97g	Govt: \$756.00 to \$1,220.00
	EVKim500	5.0x	Custom	2.5" to 3.5"	2.2" to 4"		93g	* <b>Contract: V797P-3493K</b> Expires 30 Sep 2004  Note: 5% discount for ten or more
Keeler Instruments	<u>Flip-up</u>	2.0x	13" & 18"	Depends on provider eyesight	4.5" or 6.0"	3 years on all models	77g	Retail \$945.00
	SuperVu SL	2.5x	13", 16", 18" & 20"		3.1" to 4.5"		83g	Govt: \$637.00
	(3 different powers to choose from)	3.0x	13", 16", 18" & 20"		2.3" to 3.2"		91g	* <b>Contract: V797P-324J</b>
Keeler Instruments	<u>Flip-up</u>	2.5x	All are available in: 13", 16", 18" & 20"	Depends on provider eyesight	Varies according to provider	3 years on all models	97g	Retail \$1,495.00
	SuperVu XL	3.5x					100g	Govt: \$955.00
	(4 different powers to choose from)	4.5x					100g	* <b>Contract: V797P-324J</b>
		5.5x					117g	



### LOUPES FOR USE IN DENTISTRY (2 of 3)

Manufacturer	Type/ Models	Magnification	Working Distance	Depth of Field	Width of Field	Warranty	Weight	Price Range
Microsurgery Instruments, Inc.	<u>Flip-up</u>  7 sizes	3.0x	14,16,18,20	3 for all sizes	3.1	3 years on all models	94g	Retail: \$545.00 to \$995.00  Govt: \$395.00 to \$795.00  <b>* No Govt Contract</b>
		3.5x	16		2.75		100g	
		4.0x	14,16,18,20		2.75		94g	
		4.5x	16		2.75		100g	
		5.0x	14,16,18,20		2.75		94g	
		6.0x	14,16,18,20		2.3		94g	
		6.5x	14,16,18,20		2		94g	
Microsurgery Instruments, Inc.	<u>Flip-up</u>  2 sizes	2.5x R	14,16,18,20	3 for all sizes	4.3	3 years on all models	88g	Retail: \$ 545.00 Govt: \$395.00 Retail: \$645.00 Govt: \$495.00
		2.5x Z	10 to 23 adjustable		4.3		88g	
Light-Tech	<u>Flip-up</u>  2.0  2.6	2.0x	Both are: 14" to 16	Depends on provider eyesight	4	Limited 1 Year	198g	Retail & Govt Same \$495.00  \$570.00
		2.6x			3			
Orascopic Research	<u>Flip-up</u>	2.0x	12 to 22	5	5	Lifetime	78g	Retail: \$595.00 to \$1,045.00 Govt: \$495.00 to \$875.00 Govt with Resident Training Program: \$475.00 to 775.00  <b>* Contract# V797P- 3424k</b> Expires: Sep 2004
		2.6x	11 to 21	4	4		78g	
		3.25x	13 to 21	3	3		89g	

### LOUPES FOR USE IN DENTISTRY (3 of 3)

Manufacturer	Models	Magnification	Working Distance	Depth of Field	Width of Field	Warranty	Weight	Price Range
Orasoptic Research	<u>Through-the-Lens</u>	2.5x	11 to 24	4.5	4.5	Lifetime	64g	Retail: \$595.00 to \$1,045.00 Govt: \$495.00 to \$875.00 Govt with Resident Training Program: \$475.00 to 775.00  <b>Contract # V797P-3424k</b> Expires: Sep 2004
		3.3x	Custom Fit	4	4		81g	
		3.8x	Custom Fit	3.5	3.5		81g	
		4.3x	Custom Fit	3	3		81g	
		4.8x	Custom Fit	2.5	2.5		86g	
Designs for Vision	<u>Through-the-Lens</u>	2.0x	All Are Custom Fit	3.7	3.5	Lifetime as Long as in Practice	70g	Retail: \$995.00 to \$1,595.00 Govt: \$775.00 to \$1,350.00  Reduced price for bulk orders No Contract
		2.5x		3.1	3		62g	
		3.5x		2.0	2		70g	
		4.5x		1.2	1.4		76g	
Designs for Vision	<u>Through-the-Lens</u>	2.5x	All Are Custom Fit	3.9	4.4	Lifetime as Long as in Practice	96g	Retail: \$995.00 to \$1,595.00 Govt: \$775.00 to \$1,350.00  Reduced for bulk orders No Contract
		3.5x		3.0	2.9		99g	
		4.5x		2.4	2.0		113g	
		6.0x		1.8	2.0		117g	
Designs for Vision	<u>Flip-up</u> Flip up II	2.5x	All Are Custom Fit	NA	NA	Lifetime as Long as in Practice	NA	Retail/Govt: \$395.00 to \$445.00  Reduced for bulk orders <b>* No Govt Contract</b>

## MANUFACTURER INFORMATION

Manufacturer	Address & Phone Numbers	Website
General Scientific Corporation	77 Enterprise Drive Ann Arbor, MI 48103-9503 (800) 959-0153 (734) 996-9200 FAX: (743) 662-0520	<a href="http://www.surgitel.com">www.surgitel.com</a>
Keeler Instruments	456 Parkway Broomall, PA 19008 (610) 353-4350 FAX: (610) 353-7814	<a href="http://www.keelerusa.com">www.keelerusa.com</a>
Microsurgery Instruments, Inc	PO Box 1378 Bellaire, TX 77402 (713) 664-4707 FAX: (713) 665-8873	<a href="http://www.microsurgeryusa.com">www.microsurgeryusa.com</a>
Light-Tech, Inc.	8900 W. Josephine Road Sebring, FL 33875 (863) 385-6000 FAX: (863) 382-6000	<a href="http://www.light-tech.com">www.light-tech.com</a>
Orasoptic Research	3225 Deming Way Middleton, WI 53562 (608) 831-2555 FAX: (608) 831-2004	<a href="http://www.orasoptic.com">www.orasoptic.com</a>
Designs for Vision, Inc.	760 Koehler Avenue Ronkonkoma, NY 11779 (800) 727-6407 FAX: (631) 585-3404	<a href="http://www.designsforvision.com">www.designsforvision.com</a>